



**Australian Government**

# **TLIC0001 Operate chemical tanker**

**Release: 1**

# TLIC0001 Operate chemical tanker

## Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

## Application

This unit involves the skills and knowledge required to operate a chemical tanker in accordance with the current Australian Dangerous Goods (ADG) Code, mass and loading regulations, relevant state/territory road traffic authority vehicle licence requirements and regulations for heavy vehicles.

It includes identifying properties and hazards of chemicals being transported, and features of chemical tankers that transport chemicals. It also includes carrying out a pre-trip inspection, positioning the chemical tanker and loading it with chemicals, and transporting and delivering a load safely and efficiently to a customer site.

A chemical tanker is defined as any bulk road transport vehicle authorised to carry placarded chemical loads.

A chemical tanker is operated with limited or minimum supervision, with accountability and responsibility for self and others in achieving the prescribed outcomes.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

## Pre-requisite Unit

Not applicable.

## Competency Field

C – Vehicle Operation

## Unit Sector

Not applicable.

## Elements and Performance Criteria

### ELEMENTS

Elements describe the essential outcomes.

### PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- |                                                                                                                                   |     |                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1 Identify properties and hazards of chemicals being transported and features of chemical tankers that transport chemicals</b> | 1.1 | UN number, product class, its packing group and any sub-risks of fuel being transported are identified in accordance with emergency response documentation                                                                                                                               |
|                                                                                                                                   | 1.2 | Approved handler and approved filler requirements for chemicals being transported are identified in accordance with regulatory requirements                                                                                                                                              |
|                                                                                                                                   | 1.3 | Properties of chemicals being transported are identified in accordance with emergency response documentation                                                                                                                                                                             |
|                                                                                                                                   | 1.4 | Hazards associated with chemicals being transported are identified in accordance with emergency response documentation                                                                                                                                                                   |
|                                                                                                                                   | 1.5 | Hazardous atmosphere zones are identified in accordance with organisational requirements                                                                                                                                                                                                 |
|                                                                                                                                   | 1.6 | Circumstances in which a chemical tanker may be left unattended are explained in accordance with current ADG Code and company procedures                                                                                                                                                 |
|                                                                                                                                   | 1.7 | Functions of equipment fitted to a chemical tanker are identified in relation to safe transfer and transport of chemicals                                                                                                                                                                |
|                                                                                                                                   | 1.8 | Factors that cause static electricity and ways of minimising risks associated with it are identified in accordance with organisational requirements                                                                                                                                      |
| <b>2 Carry out a pre-trip inspection</b>                                                                                          | 2.1 | Vehicle is inspected to confirm tanker 5-yearly hydrostatic test is current, is tagged and compliant with current ADG Code, and meets company procedures; and non-compliant vehicles or trailers are repaired or reported in accordance with company procedures                          |
|                                                                                                                                   | 2.2 | Vehicle load transfer equipment is inspected to confirm security and state of repair, and all hoses are tested and tagged in accordance with current ADG Code; and non-compliant equipment is repaired or reported in accordance with company procedures                                 |
|                                                                                                                                   | 2.3 | Safety equipment is inspected to confirm it meets organisational and current ADG Code requirements, is accessible and properly maintained, stowed and secured; and unserviceable items, or items with expired test dates, are replaced or reported in accordance with company procedures |
|                                                                                                                                   | 2.4 | Personal protective equipment (PPE) is inspected to confirm                                                                                                                                                                                                                              |

- it is available, ready for use, and meets current ADG Code requirements
- 2.5 Dangerous goods placards are inspected to confirm they are correct for the load being carried and are displayed in accordance with current ADG Code
- 3 Position chemical tanker and prepare to load**
- 3.1 Vehicle is driven into loading site in accordance with site procedures, using PPE that complies with organisational and regulatory requirements
- 3.2 Vehicle is positioned without injury to people or damage to property and in a position that enables loading to be carried out in accordance with site procedures
- 3.3 Park brake is applied, engine is turned off and battery is isolated as required
- 3.4 Locations of emergency equipment and emergency procedures are identified before loading commences
- 3.5 Product type and quantity to be loaded are checked to confirm they are in accordance with delivery documentation and are within safe carrying capacity and gross weight limitations of vehicle, and discrepancies are rectified in accordance with company procedures
- 3.6 Product transfer equipment is connected in accordance with organisational requirements
- 4 Load chemical tanker with chemicals**
- 4.1 Site procedures are implemented for commencement of loading process
- 4.2 Products to be loaded are checked for compatibility and correct segregation, also taking account of product sub-risks
- 4.3 Products to be loaded are checked to ensure they are compatible with tanker and that tanker is fit for purpose
- 4.4 Loading process and fill levels are monitored in accordance with company and site procedures
- 4.5 Vehicle is safely loaded with chemicals using only approved equipment, and in accordance with organisational and regulatory requirements
- 4.6 At completion of loading process, all valves on vehicle and load-out facility are closed and where site procedures specify, all transfer equipment is vented and/or depressurised before being disconnected and stowed, with all equipment

- secured in accordance with site and company procedures
- 4.7 Loaded vehicle is confirmed as being within legal weight limitations and in compliance with company and regulatory procedures
  - 4.8 Loaded vehicle is inspected pre-departure to ensure all hoses, pipes and cables are disconnected and secure, brake interlock is deactivated as required, and obstacles are cleared in accordance with company and site procedures
  - 4.9 Site is restored to a clean and tidy condition in accordance with site procedures
  - 4.10 Vehicle is moved from loading area without damage to property or injury to people and in accordance with site procedures
  - 4.11 Delivery documentation is completed, checked, and secured in vehicle in accordance with regulatory requirements
  - 4.12 Vehicle and tanker are checked to ensure correct placarding
- 5 Transport load safely and efficiently to customer site**
- 5.1 Routes are planned to avoid congested areas, tunnels or areas where people may congregate and to maximise efficiency between delivery sites
  - 5.2 Prescribed routes are followed in accordance with organisational requirements, and courtesy and professionalism is exhibited toward other road users
  - 5.3 Tanker is driven and manoeuvred in accordance with legal requirements, taking into consideration vehicle stability and prevailing environmental conditions
  - 5.4 Eco-driving techniques are applied
  - 5.5 Action is taken to deal with traffic delays and diversions
  - 5.6 Legislative and organisational procedures are adhered to in driving, parking and leaving tanker standing, or when tanker breaks down or stops on a road
- 6 Deliver load of chemicals to customer site**
- 6.1 Pre-delivery assessment is made before entering delivery site, and site features that constitute a hazard and/or prevent delivery are rectified or reported in accordance with organisational and site requirements
  - 6.2 Site instructions and/or restrictions are complied with

- 6.3 Vehicle is manoeuvred and positioned in such a way that product can be delivered efficiently and safely, with park brake applied and engine, unless required for pumping, turned off
- 6.4 PPE is used in accordance with organisational and regulatory requirements and steps are taken to apply personal safety measures
- 6.5 Worksite is marked with signs and/or cones and vehicle is remained with, and delivery and potential hazards are managed in accordance with organisational and site requirements
- 6.6 Visible receiving vessel and/or components are checked for damage, and contents are checked to ensure sufficient ullage exists for delivery, with any deficiencies reported or actioned in accordance with company and site procedures
- 6.7 Preparation for delivery is consistent with organisational and site requirements
- 6.8 Product type and quantity are confirmed against delivery documents
- 6.9 Delivery is undertaken in line with product being delivered, company and site procedures, and special delivery instructions
- 6.10 Gauges are checked as required, valves are opened and closed in correct sequence, and hoses and connections are visually checked for leaks
- 6.11 At completion of delivery, product transfer equipment is disconnected in accordance with product type, and company and site procedures
- 6.12 Site is secured and restored to a clean and tidy condition in accordance with site procedures
- 6.13 Delivery documentation is completed to reflect changes in vehicle load and receiving vessel, and distributed in accordance with organisational and regulatory requirements
- 6.14 Vehicle is inspected pre-departure in accordance with organisational requirements
- 6.15 Vehicle is driven from site safely and in accordance with site and organisational procedures

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| <b>7 Apply driver emergency procedures in an emergency</b> | <div style="display: flex; align-items: flex-start;"><div style="margin-right: 10px;">7.1</div><div>Procedures for emergencies during loading and unloading are implemented in accordance with emergency response documentation and organisational transport emergency response plan (TERP)</div></div> <div style="margin-top: 10px;"><div style="display: flex; align-items: flex-start;"><div style="margin-right: 10px;">7.2</div><div>Procedures for emergencies in transit are identified in accordance with emergency response documentation and organisational TERP</div></div><div style="margin-top: 10px;"><div style="display: flex; align-items: flex-start;"><div style="margin-right: 10px;">7.3</div><div>Emergency response documentation and organisational requirements are implemented in initial responses to a person exposed to chemicals being transported</div></div></div></div> |
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## Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

## Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

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|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment fitted to a chemical tanker must include:                     | <ul style="list-style-type: none"><li>• breakdown triangles</li><li>• chemical resistant gloves</li><li>• emergency cones</li><li>• emergency information holder</li><li>• emergency shutdown controls</li><li>• eyewash kit</li><li>• fire extinguishers</li><li>• torch</li></ul> |
| Loading and unloading sites must include at least one of the following: | <ul style="list-style-type: none"><li>• customer site</li><li>• depot</li><li>• terminal</li></ul>                                                                                                                                                                                  |
| Emergency response equipment must include:                              | <ul style="list-style-type: none"><li>• emergency shutdown controls</li><li>• eyewash kit</li><li>• fire extinguisher</li><li>• spill kit</li></ul>                                                                                                                                 |

Documentation and records must include:

- emergency procedure guides
- state/ territory road rules
- shipping documentation
- TERP

## Unit Mapping Information

This unit replaces but is **not** equivalent to TLIC4065A Operate chemical tanker.

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

# Assessment Requirements for TLIC0001 Operate chemical tanker

## Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

## Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least one occasion and include:

- applying correct placarding required for product being loaded
- applying eco-driving techniques when operating chemical tankers
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying techniques for loading and unloading a chemical tanker
- completing documentation relating to operating chemical tankers
- identifying compatibility of tanker with product
- identifying personal protective equipment (PPE) required for product being transported
- identifying product and placarding tanker accordingly
- identifying properties of chemicals to be carried
- implementing contingency plans
- interpreting and following operational instructions and prioritising work
- meeting customer requirements when delivering fuel to customer site
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring and anticipating traffic hazards and taking appropriate action
- monitoring performance of chemical tanker, its trailers and equipment, and taking appropriate action as required
- operating and adapting to differences in equipment in accordance with operating procedures
- planning routes to avoid congested areas, tunnels or areas where people may congregate
- reading and interpreting relevant instructions, procedures, information and signs
- selecting and using required PPE, conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

## Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- causal factors of chemical tanker accidents and incidents
- effects of weight distribution on load behaviour and vehicle stability
- efficient driving techniques and eco-driving considerations
- factors involved in trip preparation
- factors that may cause traffic delays and diversions
- loading and unloading procedures for chemical tankers
- procedures to be followed in a driving emergency and in response to a transport emergency response plan (TERP)
- relevant dangerous goods information for operating chemical tankers
- relevant legislation and workplace procedures for transporting chemicals
- relevant road rules, regulations, permit and licence requirements of relevant state/territory roads and traffic authority
- relevant WHS/OHS and environmental procedures and regulations for chemical tanker operations
- safe delivery of chemicals to customer site
- techniques to continually identify and mitigate environmental risks
- workplace documentation
- workplace driving and operational instructions.

## Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

Assessment must occur in workplace operational situations, with the exception of Element 7; due to workplace health and safety risks, assessment of Element 7 must occur using simulations in workplace operational situations.

Practical assessment must be undertaken with a chemical tanker that meets all industry compliance and/or licensing requirements.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment include:

- eye wash kit, fire extinguisher, torch, chemical resistant gloves, spill kit, and personal protective equipment currently used in industry
- workplace procedures, current Australian Dangerous Goods (ADG) Code, emergency procedure guides, emergency response documentation, shipping documentation, TERP.

A simulator is not suitable for final assessment of this unit of competency.

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>